

CLAIMS

What is claimed is:

1. A transparent article comprising
a thermoplastic polymer matrix; and
5 a plurality of domains dispersed in the thermoplastic polymer matrix
and having dimensions in an axial plane of the article, each domain
encompassing an oxidizable inorganic composition, wherein the shortest
dimension of each domain in the axial plane of the article is up to about 45
microns, so as to substantially preclude visibility of said domains to a naked
10 eye resulting from oxidation of the inorganic composition within said domain
as well as oxidation of the inorganic composition that exceeds the domain but
does not exceed up to about 45 microns.
2. The transparent article of claim 1, wherein the transparent article is stretched.
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3. The transparent article of claim 1, wherein the transparent article is a plastic
bottle.
4. The transparent article of claim 1, wherein the thermoplastic polymer matrix
20 is selected from the group consisting of linear polyesters, branched polyesters,
polyamides, polystyrenes, polycarbonates, polyvinylchlorides, polyvinylidene
dichlorides, polyacrylamides, polyacrylonitriles, polyvinylacetate, poly acid,
polyvinyl methyl ether, ethylene vinyl acetate copolymer, ethylene methyl
acrylate copolymer, low molecular weight polyolefins having 2 to 8 carbon
25 atoms, and copolymers and terpolymers thereof, and blends thereof.
5. The transparent article of claim 4, wherein said thermoplastic polymer matrix
is a linear polyester matrix selected from the group consisting of polyethylene
terephthalate, polyethylene naphthalate, and polybutylene terephthalate,
30 polytrimethylene terephthalate, and copolymers and terpolymers thereof.

6. The transparent article of claim 1, wherein the thermoplastic polymer is polyethylene terephthalate.
- 5 7. The transparent article of claim 1, wherein the inorganic oxidizable composition includes an oxidizable metal.
8. The transparent article of claim 1, wherein the inorganic oxidizable composition includes iron.
- 10 9. The transparent article of claim 1, wherein the inorganic oxidizable composition includes an oxygen scavenging particle.
10. The transparent article of claim 1, wherein the shortest dimension of each domain is up to about 38 microns.
- 15 11. The transparent article of claim 1, wherein the shortest dimension of each domain is up to about 32 microns.
- 20 12. A method for the production of a transparent article including a thermoplastic polymer matrix having an inorganic oxidizable composition dispersed therein, comprising:
 - adding an effective amount of the inorganic oxidizable composition into the polymer matrix to scavenge oxygen passing through the polymer matrix;
 - 25 forming an article of desired size and shape, wherein domains are created around the inorganic oxidizable composition upon formation of the article, the domains having dimensions in the axial plane of the article, and wherein the shortest dimension of each domain is up to about 45 microns so as to substantially preclude visibility of said domains to the named eye
 - 30 resulting from oxidation of the inorganic composition within said domain as well as oxidation of the inorganic composition that exceeds the domain but

does not exceed up to about 45 microns.

13. The method of claim 12, wherein said transparent article is stretched.
- 5 14. The method of claim 12, wherein the transparent article is a plastic bottle.
15. The method of claim 12, wherein the inorganic oxidizable composition includes an oxidizable metal.
- 10 16. The method of claim 12, wherein the inorganic oxidizable composition includes an iron.
17. The method of claim 12, wherein the step of forming includes blow-molding a container of desired size and shape.
- 15 18. The method of claim 12, wherein the thermoplastic polymer matrix is selected from the group consisting of linear polyesters, branched polyesters, polyamides, polystyrenes, polycarbonates, polyvinylchlorides, polyvinylidene dichlorides, polyacrylamides, polyacrylonitriles, polyvinylacetate, poly acid, 20 polyvinyl methyl ether, ethylene vinyl acetate copolymer, ethylene methyl acrylate copolymer, low molecular weight polyolefins having 2 to 8 carbon atoms, and copolymers and terpolymers thereof, and blends thereof.